

Attorney Docket No.: **SIT-0106**
Inventors: **Esche and Nazalewicz**
Serial No.: **09/954,994**
Filing Date: **September 18, 2001**
Page 4

REMARKS

Claims 1 and 2 are pending in the instant application. Claims 1 and 2 have been rejected. Claims 1 and 2 have been amended. No new matter has been added by this amendment. Reconsideration is respectfully requested in light of the following remarks.

I. Information Disclosure Statement

The Examiner has indicated that the Information Disclosure Statement filed on 1/6/04 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent cited. Therefore, Applicants are resubmitting the cited references herewith.

II. Objection of Drawings

The drawings have been objected to under 37 CFR 1.83(a) because the Examiner suggests that the drawings and specification indicate that the non-linear spring comprises the isolator among other elements, however, claim 2 suggests that the non-linear spring and the isolator are two distinct elements. Applicants respectfully traverse this rejection.

As depicted in Figure 2, the passive isolator device of claim 2 has a non-linear force-deflection characteristic and is composed of a mechanical actuator which varies an operating point along the force-deflection characteristic. The elements of the mechanical actuator of claim 2 include a coiled spring, a non-linear spring and a means for externally controlling a preload to the coiled spring. Accordingly, claim 2 has been amended to clarify the elements of the claimed device in accordance with

Attorney Docket No.: **SIT-0106**
Inventors: **Esche and Nazalewicz**
Serial No.: **09/954,994**
Filing Date: **September 18, 2001**
Page 5

Figure 2. Withdrawal of this objection is therefore respectfully requested.

III. Rejection of Claims Under 35 U.S.C. §112

Claim 1 has been rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. In particular, the Examiner suggests that the phrase "the system" lacks proper antecedent basis in the specification. Applicants have therefore amended claim 1 to refer to the natural frequency of the entire device. Support for this amendment can be found from page 6, line 20, to page 7, line 10. Withdrawal of this rejection is therefore respectfully requested.

IV. Rejection of Claims Under 35 U.S.C. §102

Claim 2 has been rejected under 35 U.S.C. §102(a) as being anticipated by JP2000-291725 (JP '725). The Examiner suggests that figure 1 of JP '725 shows a device for adaptive vibration attenuation comprising a passive isolator with a non-linear force-deflection characteristic and a mechanical actuator which varies an operating point of the passive isolator along the force-deflection characteristic, wherein the mechanical actuator is comprised of a coiled spring, a non-linear spring and a means for externally controlling a preload to the coiled spring whereby as the coiled spring force is varied, pressure is transferred to the non-linear spring. Applicants respectfully disagree.

To further clarify the inventive passive isolator device of claim 2, Applicants have amended claim 2. As taught at page 7, lines 20-23 the mechanical actuator of the passive isolator is

Attorney Docket No.: **SIT-0106**
Inventors: **Esche and Nazalewicz**
Serial No.: **09/954,994**
Filing Date: **September 18, 2001**
Page 6

comprised of a coil spring, a load supporting rod, a non-linear spring, and a means for externally controlling a preload to the coiled spring. As the coiled spring force is varied, the load supporting rod transfers pressure to the non-linear spring (see page 8, lines 3-6). JP '725 teaches a damping mass supported from both sides by springs of non-linear characteristics and a coiled spring. JP '725 does not teach a coiled spring and a load supporting rod for transferring pressure to a non-linear spring. Accordingly, the cited reference does not teach each and every element of claim 2 and therefore does not anticipate it. It is therefore respectfully requested that this rejection be withdrawn.

V. Rejection of Claims Under 35 U.S.C. §103

Claim 1 has been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,361,031 in view of U.S. Patent No. 5,700,000. The Examiner suggests that the '031 patent teaches a device for adaptive vibration attenuation comprising a passive isolator with a force-deflection characteristic and a pneumatic actuator, and vacuum actuated valves which vary the operating point of the isolator along the force-deflection characteristic wherein the pneumatic actuator comprises at least one upper pressure chamber and one lower pressure chamber wherein the natural frequency of the system is regulated by applying pressure to the upper chamber or the lower pressure chamber, particularly the upper chamber. The Examiner acknowledges that the '031 patent does not disclose that the force-deflection characteristic of the passive isolator is non-linear; however, the '000 patent teaches the use of vibration attenuation device

Attorney Docket No.: **SIT-0106**
Inventors: **Esche and Nazalewicz**
Serial No.: **09/954,994**
Filing Date: **September 18, 2001**
Page 7

comprising a passive isolator with a non-linear force-deflection characteristic. The Examiner suggests that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the passive isolator of the '031 patent to include a non-linear force-deflection characteristic of the '000 patent in order to provide a means of allowing good dampening and preventing shaking even at large amplitudes of perturbation as taught by the '000 patent. Applicants respectfully disagree.

To further clarify the inventive passive isolator device of claim 1, Applicants have amended claim 1. As taught at page 4, lines 29-31, the pneumatic actuator of the passive isolator is comprised at least one upper pressure chamber and a lower pressure chamber present on either side of a non-linear spring. By applying pressure to the upper pressure chamber or the lower pressure chamber, the natural frequency of the device is regulated (see page 6, line 20, to page 7, line 10). MPEP 2143 indicates that the combined references must teach or suggest all the claim limitations. Because neither the '031 patent nor '000 patent teaches or suggests the use of a non-linear spring, wherein the natural frequency of the device can be regulated by applying pressure to an upper pressure chamber or lower pressure chamber, these references do not make the passive isolator of claim 1 obvious. It is therefore respectfully requested that this rejection be withdrawn.

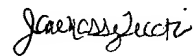
VI. Conclusion

The Applicants believe that the foregoing comprises a full and complete response to the Office Action of record.

Attorney Docket No.: **SIT-0106**
Inventors: **Esche and Nazalewicz**
Serial No.: **09/954,994**
Filing Date: **September 18, 2001**
Page 8

Accordingly, favorable reconsideration and subsequent allowance of the pending claims is earnestly solicited.

Respectfully submitted,



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Date: **November 30, 2004**

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